State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbe
Commissioner

Andreas Eisenberger
Environmental Strategies & Applications
495 Union Ave. Suite 1D
Middlesex, NJ 08846

APR 6 2004

Re: Federal Refining, Inc.(Federal Refining)
29 Riverside Ave.
Newark City, Essex County
ISRA Case #E20000550
Preliminary Assessment/Site Investigation Report dated July 21, 2003
Ground Water Investigation Scope of Work dated December 22, 2003

Dear Mr. Eisenberger:

The New Jersey Department of Environmental Protection (NJDEP) has reviewed the above referenced documents submitted by Environmental Strategies & Applications, Inc. (ESA). ESA prepared the Preliminary Assessment (PA) and Site Investigation Report (SIR), dated July 21, 2003 on behalf of Federal Refining Company, Inc. (Federal Refining).

In addition to the PA, ESA conducted a site investigation to evaluate the high levels of acetone in ground water and the potential for an offsite source. As requested Federal Refining intends to further investigate as noted in the above referenced Scope of Work (SOW). Aside from further investigating the acetone in ground water, additional investigation is required for soil and ground water at Federal Refining related to past and present site operations.

The December 2003 SOW to address acetone in ground water is conditionally acceptable. Modifications to the SOW are required to allow for not only the investigation of acetone in ground water, but also for investigation of additional soil and ground water parameters and other areas of concern (i.e. floor drain, historic fill, non-historic, interior floors, etc.) targeted for further investigation at the site. See below for further details.

Please be advised that the Technical Requirements for Site Remediation, N.J.A.C. 7:26E appeared in the New Jersey Register and became effective on February 3, 2003. All submissions to the NJDEP on or after the effective date shall be made in accordance with the referenced amended rules, regulations and statute.

I. SOIL

A. The investigation of the following areas of concern (AOCs) have been completed at this time. A No Further Action/Covenant Not To Sue will be issued for the industrial establishment at the completion of the ISRA case and after the filing of all applicable institutional controls.

1. AOC-1 Loading Area

This 10 ft. by 20 ft. loading dock is located on the north side side of the building. It was constructed prior to 1950. It is used to load/unload precious metals scrap.

2. AOC-7 Dumpster area

This exterior dumpster area is asphalt surfaced and measures 10 ft. by 10 ft. The metal, 3 cu. yd. dumpster is used to collect general solid waste.

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3. AOC-8 Chemical Storage Cabinet
This interior metal cabinet measures 43 in. by 18 in. by 65 in. and is located along the easterly wall of the workshop area of the building. It reportedly stores the hazardous materials listed in the 5/22/03 Hazardous Materials Inventory listed at Appendix 4 of the PA Report.

4. AOC-14 Incinerator
This gas-fired precious metals incinerator is 6 ft. by 4 ft. and constructed of steel and located in the northern interior portion of the building. It is used to dry scrap jewelry prior to melting in the onsite furnaces. Federal Refining reports no hazardous materials are incinerated in this unit.

5. AOC-19 Non-contact Cooling Water Discharges
It is reported that since 1985 cooling water used to cool induction coils has been discharged to the PVSC.

6. AOC-21 Ceiling Vent (Incinerator Room)
This ceiling vent is a metal fan located in the northern portion of the building. It serves to vent the furnace and incinerator room. It is reported that all dusts generated during the melting and incineration of precious metals is collected via ducts associated with the dust collector, AOC 26.

7. AOC-22 Ceiling Vent (Central Workshop)
This ceiling vent is a metal fan that serves to vent air from the central workshop area. It is reported that all dust generated during the crushing of automobile catalytic converters is collected via ducts associated with the dust collecter (AOC 24).

8. AOC-23 Northerly Dust Collecting Hood and Fan
This system of metal ducts was installed in 1985 and collects dusts from the interior processing area. Federal Refining reports no hazardous materials are melted or incinerated on site. All dusts are collected with the dust collector (refer to AOC-26, below).

9. AOC-24 Central Dust Collecting Hood and Duct System
This system of metal ducts was installed in 2001 and collects dusts from crushing of auto catalytic converters. Federal Refining reports no hazardous materials are processed on site. All dusts are collected with the dust collector and stored in 55 gallon drums. Filters ensure that all dust is collected and not discharged via the external blower (refer to AOC-26, below).

10. AOC-26 Northerly Dust Collector
This 4 ft. by 4 ft. metal drum collects dust via ducts from the processing of precious metals in the northern work area. Federal Refining reports no hazardous materials are melted or incinerated on site.

11. AOC-27 Finished Product Storage Area
This interior concrete area is located in the southern portion of the building. It has been in use since 2001 to store containers of crushed ceramics prior to shipment offsite. The ceramic components of the former catalytic converters are removed and placed into bags. The ceramic contains platinum, palladium and rhodium. The bags and drums of metal dust are staged within the southern portion of the building before removal offsite. They reportedly contain no hazardous metals. A scrap roll-off container is also associated with AOC 27.

12. AOC-28 Metals Furnace
This 8 ft. by 6 ft. melting furnace, located in the northerly workshop area of the building, is used to melt precious metals into ingots.

13. AOC-29 Metals Furnace
This 8 ft. by 12 ft. induction furnace, located in the northerly workshop area of the building, is used to melt precious metals into ingots.

14. AOC-31NJ Spills Site Listing
The site is listed in the NJ Spills database as site number 17723 and Case No. 93-10-19-1712-50, as a result of a 10/19/93 spill of hydrochloric acid. The acid spill was minor and immediately cleaned up.

B. Further Action/Investigation Required

15. AOC-5 Storage Area (Exterior)
This roofed exterior storage area is on the northwest side of the building. It is approximately 10 ft. by 20ft. and has a concrete floor. The area is used to stage a 55 gallon drum used to collect the dust from the catalytic converter recycling operation which contains platinum, palladium and rhodium. The dust reportedly contains no hazardous metals or materials. It is also reported to be the former exterior drum storage area built prior to 1950.

The integrity of the impermeable ground surface was observed to be in poor condition and is required to be maintained as part of the engineering control for the Deed Notice. To minimize future contamination from potential releases in this and other exterior storage areas, the entire area of this AOC shall be covered with a properly maintained impermeable surface.

16. AOC-6 Storage Area (Exterior)
This exterior, 30 cu. yd. roll-off waste container is located on the west side of the building and is used to store the metal scrap from the catalytic converter recovery operation. The scrap reportedly contains no hazardous materials or waste.

Although no evidence of spills or discharges was noted, the integrity of the storage area was observed to be in poor condition during the 10/29/03 site visit. This area is required to be maintained as part of the engineering controls and Deed Notice. To minimize future contamination from potential releases in this and other exterior storage areas, the entire area of this AOC should be covered with a properly maintained impermeable surface.

17. AOC-18 Waste Treatment Area/Contact Cooling Water Discharges
This 5ft. by 10 ft. concrete area is located in the floor in the southern interior portion of the building. It was used between 1985 and 1997 to discharge only cooling water to the PVSC. Federal Refining reports no process waste effluent has ever been discharged as part of site operations. The integrity is reported as uncompromised. An evaluation of the integrity shall be performed. Federal shall report whether the waste treatment system is still present on the site and clarify the operation capability of the systems. If the system has operated since the last 1995 ISRA review it shall be evaluated for potential releases pursuant to the Technical Regulations.

18. AOC-2 Pit
This 4 ft. by 3 ft. by 2 ft. deep pit is located at the southerly corner of the building. Its reported use was previously unidentified. Subsequently, a November 25, 2003 affidavit certifies that the purpose of the pit was to provide access to the municipal potable water service and former natural gas connections to the building. Federal Refining's General Manager, Julian Suhok further states it was never associated with any process or the storage or discharge of any hazardous substances or waste. The pit is reportedly the original location of the water service plumbing that supplied clean water to the building and housed the water meter. It is reported that the pit had a sound concrete floor and no plumbing penetrated this barrier. The meter and associated plumbing has since been relocated to the front of the building and the pipes have not been used since. **No further investigation specific to the pit is required, however, the extent of the existing contamination detected via the February 2001 soil borings shall be addressed.**

On February 15, 2001 a soil boring was advanced and a soil sample collected from 2 to 2.3 ft. below ground surface (bgs). Elevated volatile organic compounds (VOCs) were detected. Specifically, benzene (18 ppm), chlorobenzene (1.3 ppm), napthalene (530 ppm) toluene (920 ppm), and total xylenes (6200) ppm, are present at concentrations greater than the NJDEP Soil Cleanup Criteria. Acetone was detected up to 8.6

ppm which is below the IGW SCC of 100 ppm. Elevated acetone, benzene and methylene chloride were detected in temporary well points in excess of the Groundwater Quality Standards (GWQS). See Part II, below for additional ground water comments/requirements.

Federal Refining would like to amend the existing Deed Notice to include the elevated contaminants (VOCs) based on the contention that the elevated concentrations in soils and groundwater are not attributable to operations at the site. **The proposal is unacceptable as presented and delineation/remediation is required. See below "Historic Fill/Non Historic Fill Phase I and Phase II Investigations".**

19. AOC-3 Below Ground Piping
Below ground iron piping exits to the exterior at the eastern corner of the building and enters the ground. Age and integrity are unknown. Chemical content and inventory control records are unavailable.

Federal Refining proposes further evaluation of the pipe to determine the use of the pipe and whether there is any environmental concern associated with the pipe. The investigation shall be performed pursuant to the requirements of N.J.A.C. 7:26E-3.9(a)5.

20. AOC-4 Storage Area
This exterior drum storage area is on the northern corner of the building, was built prior to 1950 and is approximately 5 ft. by 10 ft. and is surfaced with asphalt. The area was formerly used to stage empty drums containing scrap materials. NFA is proposed. It is reported that the drums are currently staged in AOC 5.

The proposal is conditionally acceptable, pending Federal Refining's submittal of all information from the prior ISRA case pertinent to this AOC, as well as the submittal of additional information on the nature of the scrap materials stored in the drums. Although no visible signs of spills/discharges were noted, cracking in the pavement was evident during the 10/29/03 site visit. To minimize future contamination from potential releases in this and other exterior storage areas, the entire area should be covered with a properly maintained impermeable surface after investigation/remediation activities at this AOC are complete.

21. AOC-9 Chemical Storage Area
This interior chemical storage area is located in the former laboratory area in the westerly corner of the building. The age is unknown. The floor integrity is reportedly uncompromised concrete. It was used to store the hazardous materials listed in the 12/18/00 Hazardous Materials Inventory listed at Appendix 4 of this report.

The chemicals listed in the 12/00 inventory were associated with the assay operations formerly undertaken at the site. If these chemicals are no longer used, then proper disposal is necessary. The NFA proposal cannot be approved at this time. The NJDEP will re-evaluate the NFA proposal pending receipt verifying proper disposal of the referenced chemicals.

22. AOC-10 Floor Drain
This 6 in. diameter interior floor drain is located in the southerly portion of the building. Construction is reported to be prior to 1950. The construction details and integrity are unknown. It is reported that the drain was formerly connected to the sanitary sewage system and ultimately to the PVSC. The PA reports the drain was sealed with concrete in 1997. However, during the ISRA site inspection (10/29/03) the drain was observed to be capped and not sealed with concrete. Subsequent to this observation, an affidavit was submitted reporting the drain was sealed with a PVC cap at the time Federal Refining acquired the premises. It is also reported the drain discharges to the municipal sanitary sewer. Due to the lack of information on the historical uses of this drain, further investigation of the soils in the vicinity of this drain is required. The investigation of the floor drain/drain lines shall be performed pursuant to the requirements of N.J.A.C. 7:26E-3.9(d)1. It appears that modifications to the December 2003 SOW can accommodate further investigation of this AOC.

23. AOC-11
Roof Leaders – these two roof drains are located at the southerly and westerly corners of the building. They are constructed of metal and PVC and are 3-5 in. in diameter. Federal Refining proposes NFA reporting that although two ceiling vents exist on the building roof, no hazardous materials are associated with the metal recycling operations at the site.

It is noted that no hazardous materials were vented by Federal Refining through roof vents that could impact the contents of the roof leaders, and that the leaders were included in the prior ISRA case. However, it is not clear from the information submitted on the prior ISRA case if the discharge points were sampled as required by N.J.A.C. 7:26E-3.9(d)2. Also, while it is noted that Federal Refining has not discharged any hazardous materials through the roof vents that could be discharged via the roof leaders, the history of site prior to Federal Refining's operation is not well documented. Moreover, the potential for lead contamination from past roofing materials exists. This contamination potential may have been adequately addressed in the prior ISRA case. The proposal is conditionally acceptable pending Federal Refining's submittal of the information from the prior ISRA case pertinent to this AOC.

24. AOC-12 Storm Sewer Collection System
This 2 ft. by 3 ft. catch basin, located in the westerly parking area of the site, is constructed of concrete and covered by a steel grate. The facility has a NJDEP permit to discharge surface water to the Passaic River The copy of the permit in Appendix 9 of the PAR notes the permit expired January 31, 2002. The NFA proposal is unacceptable. A final determination is pending the review of updated valid permit and pending the submittal of additional information pertaining to the roof leaders and interior floor drain, as required at AOC 10 and AOC 11.

25. AOC-13 Surface Water Bodies
The Passaic River represents the easterly property boundary. This boundary is approximately 200 feet long. Federal Refining reports there is no evidence of hazardous materials discharge or other environmental concern noted with this AOC. The NFA proposal is conditionally acceptable. No stressed vegetation, sheens, seeps or discolored soil was observed during the 10/29/03 site visit. However, submittal of a Baseline Ecological Evaluation (BEE) is required for this site. A re-evaluation of a NFA proposal will be determined based on the BEE.

26. AOC-15 Historic Fill and Non Historic Fill Additional Phase I and II Investigations
The site was originally part of the Passaic River and was filled sometime between 1909 and 1931. Multiple phases of soil investigations have been performed at the site subsequent to establishing the 1998 Deed Notice under ISRA Case #95104. Delineation of the non-historic fill related organic and inorganic material remains to be performed.

On July 18, 2000, Environmental Engineering Corp (EEC) performed a Phase 1 investigation including the advancement of six soil borings (FB-1 through FB-6) in the yard area. The soil-boring log for FB-1 indicated stained core, with petroleum sheen and oil odor, and the soil-boring log for FB-3 indicated black stain of creosote/tar. The petroleum odor and sheen on the water table were also noted for various other site soil borings (i.e. saturated oil on water table in EEC-BT). Soil samples FB-1 through FB-6 were analyzed for VOC+10 and FB-1, FB-2, FB-4 and FB-5 were analyzed for PP-Metals.

Sample FB-1 detected elevated benzene (18 ppm), ethylbenzene (170 ppm), naphthalene (110 ppm), toluene (990 ppm) and total xylene (245 ppm) above the soil cleanup criteria (SCC). Results of the metals analyses revealed elevated antimony (43.4 ppm), cadmium (412 ppm), lead (17,800 ppm) and zinc (2,230 ppm) above the SCC. It should be noted that acetone was not detected in Phase I soil borings FB-1 and FB-6 located on the southern portion of the site. A Phase II investigation was conducted in February 2001 included seven additional borings (FB7 through FB13). Soil samples and ground water grab samples were collected. Elevated VOCs above residential soil cleanup criteria (SCC) and impact to ground water (IGW) SCC were detected. Federal Refining reports elevated VOCs in soil at FB8S1 have been delineated.

The existing Deed Notice includes lead and cadmium. It is proposed to amend the existing Deed Notice to include the presence of the elevated VOCs (i.e. benzene, chlorbenzene, ethylbenzene, napthalene, toluene, total xylenes) as well as antimony, arsenic, and zinc present in concentrations above the NJDEP soil cleanup criteria. It is also proposed to delete cadmium from the new Deed Notice.

The proposal is not acceptable as presented. The VOCs detected in the historic fill area of the site are not consistent with the normal characteristics of historic fill. Additional investigation is required to determine the sources of these contaminants. Soil sampling in the area of documented petroleum sheen is required for PP+40. The various organic compounds (petroleum sheen and volatile organic compounds) noted in the soil boring logs shall be delineated and addressed separate from historic fill. To date the analytical parameter list has been limited to VOC+10 and a few metals (lead and cadmium) for site characterization. Future soil sampling analysis shall be for Priority Pollutant +40.

The proposed December 2003 SOW shall be revised to include investigation of this AOC.

Also, Federal Refining shall note that the Department's 9/8/03 letter requires additional soil and groundwater investigation to further delineate the presence of arsenic, zinc and barium and identify potential sources of these constituents. Any changes to the existing Deed Notice is deferred pending the results of a historic fill investigation performed in accordance with N.J.A.C. 7:26E, Technical Reguirements for Site Remediation (TRSR). Note that exceedances previously identified in the 1985 sampling results (soil location FR-SS3) shall be re-evaluated for inclusion in a revised Deed Notice.

27. AOC-16 Electrical Transformer (Interior)
This 1 ft. by 2 ft. dry-type unit is located in the northerly interior portion of the building and is of unknown age. The NFA proposal is unacceptable as presented.

Federal Refining shall verify that all transformers on the site were always of the dry type and that they never contained PCBs. Absent this information, additional investigation of the soil in the vicinity of the transformers is required.

28. AOC-17 Electrical Transformer (Interior)
This 3 ft. by 3 ft. by 6 ft. tall dry-type unit was installed in 1985 and is located in the central interior portion of the building. The NFA proposal is unacceptable as presented. See above, AOC -16. Same conditions apply.

29. AOC-20 Boiler Room
This room, located in the easterly portion of the building, dates to before 1950 and houses the natural gas-fired furnace. The NFA proposal is not acceptable at this time. Federal Refining shall report whether this boiler was historically operated via fuel oil and whether it has historically used fuel oil. Clarification shall be submitted verifying whether fuel oil tanks existed in association with this boiler room.

30. AOC-25 Storage Area
This area in the northerly exterior yard contains 30 cu. yd. steel containers for the storage of catalytic converters prior to processing. Federal Refining proposes NFA. The NFA proposal is not acceptable.

The 10/29/03 site inspection confirmed that this area consists of six storage units placed on unpaved ground. The units are used to store catalytic converters pending processing. Metal plates have been placed over soil to allow for forklift traffic.

The dimensions of this AOC shall be determined by the Federal Refining and, due to the unknown site history and use, sampling of the soils within this area and analysis for PP + 40 is required. The investigation shall be performed pursuant to the requirements of N.J.A.C. 7:26E-3.9(b).

31. AOC-30 Groundwater Contamination
Refer to Ground Water, Part II below for comments.

C. Additional Areas of Concern/Requirements

32. Roof Drains/Damaged Pipes
Pipes were observed along the side of the building adjacent to the river. Their use and/or discharge points must be documented. Sampling may be necessary, pending the submittal of this additional information.

33. Interior Floor
The interior floor of the building was noted to be in poor condition, especially the small room utilized by Federal Refining. Due to the unknown history of this facility, the floor must be examined to determine if the potential exists for discharge to the underlying soils. In areas of breached integrity, a proposal shall be submitted to investigate the soils underlying the building pursuant to the requirements of N.J.A.C. 7:26E-3. It appears that modifications to the December 2003 SOW can accommodate further investigation of this AOC.

34. Site Map
A detailed site map must be provided. This site map should depict all soil areas of concern, including soil sample results and depths. All data collected as part of the previous ISRA investigation must also be included. **This map(s) shall comply with all the requirements of N.J.A.C. 7:26E-3.13(d).** All elevated concentrations above the cleanup criteria shall be bolded, highlighted or easily distinquished.

35. Soil Boring Logs
Soil boring logs were not provided for the 2/15/01 sampling event as required and should be submitted for this and all future investigations. Also, soil boring logs were not provided for the two new wells installed on 10/31/01 pursuant to this sampling event. Again, soil boring logs are required and should be submitted for this and all future investigations.

36. Engineering Controls

The status of the Deed Notice cap of the "grass strip" along the Passaic River shall be evaluated as well as the other areas required to be capped at the site. Refer to the NJDEP's March 2004 Inspection Report for additional requirements/comments.

E. Data Review
Review corresponds to the 7/18/00 soil sampling events, 2/15/01 soil and groundwater sampling events and the 7/25/01 and 11/14/01 groundwater sampling events.

- Some of the data presented in Volume 2 of the report on the 7/18/00 sampling event was arranged in a unorganized and repetitious format.
- The data for the 7/25/01sampling event was bound in Volume 4 in a way as to obscure some of the data. Be advised that data volumes with all pages legible and with contents that accurately reflect the table of contents is a requirement and can be reviewed much more quickly.
- Note that the temperature of the sample storage cooler was not noted on the chain of custody document, and that the sample shuttle was listed as not being sealed. Note further that the MDLs were elevated for the VO analysis of the 2/15/01 samples due to the methanol preservation technique used at the time of sampling.
- For the 11/14/01sampling event, one significant chromatogram spike was unlabeled in the sample selected for review (MW-3). There was not any listing of a Tentatively Identified Compound (TIC) corresponding to this unlabeled chromatogram spike in the data package as is required by Appendix A of N.J.A.C. 7:26E. This is a serious deficiency, though not cause for rejection of the VOC data. The retention time of the unlabeled compound is approximately 13.8 minutes. This suggests the presence of a semi-volatile compound. The lab may have additional data for semi-volatile compounds on file for this sampling event; if so, this data should be submitted for review. Alternately, additional sampling for semi-volatile compounds is necessary at MW-3.

The deficiencies noted above notwithstanding, the data submitted for the 7/18/00, 2/15/01, 7/25/01 and 11/14/01 sampling events are acceptable as presented.

F. Baseline Ecological Evaluation

As per 7:26E-3.11 a baseline ecological evaluation shall be completed for each contaminated site or area of concern, except an area of concern that consists of an underground storage tank storing heating oil for on-site consumption in a one to four family residential building. This baseline evaluation shall be qualitative in nature and based on site investigation sample results and a site inspection by a person experienced in the use of techniques and methodologies for conducting ecological risk assessments in accordance with EPA guidance. This evaluation shall be used to determine when further sampling and evaluation is required, pursuant to N.J.A.C. 7:26E-4.7. The results of the baseline evaluation shall be included as part of the site investigation report submitted to the Department. The baseline ecological evaluation shall:

1. Evaluate all data identified or collected in the preliminary assessment and the site investigation to identify all of the site-specific contaminants that are of ecological concern. Contaminants of ecological concern shall include, without limitation, those that exhibit the ability to biomagnify or bioaccumulate, or contaminants with concentrations that exceed applicable standards, criteria or guidelines recommended by the Department, NOAA, U.S. Department of the Interior, EPA or other Federal natural resource agencies for use in conducting ecological assessments and investigations. Such standards, criteria and guidelines shall include, without limitation:

i. For sediments:

(1) EPA, Briefing Report to the EPA Science Advisory Board on the Equilibrium Partitioning Approach to Generate Sediment Quality Criteria, EPA 440/5-89-002;

(2) EPA, Technical Basis for Deriving Sediment Quality Criteria for Nonionic Organic Contaminants for the Protection of Benthic Organisms by Using Equilibrium Partitioning, EPA-822-R-93-011;

(3) Long, E.R., and D.D. MacDonald, S.L. Smith and F.D. Calder, Incidence of adverse biological effects within ranges of chemical concentrations in marine and estuarine sediments, Environmental Management 19:81-97, 1995; and

(4) Persaud, D., R. Jaagumagi, and A. Hayton, Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, Environmental Monitoring and Reporting Branch, Ontario Ministry of the Environment, Ottawa, 24p., 1993;

ii. For surface water:

(1) Federal Surface Water Quality Criteria for Acute/Chronic Aquatic Life Protection, 40 C.F.R. Part 131; and

(2) New Jersey Surface Water Quality Standards, N.J.A.C. 7:9B;

iii. For soil:

(1) Contaminant Hazard Reviews, Fish and Wildlife Service, U.S. Department of the Interior, various dates, Eisler, R.; and

(2) Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Terrestrial Plants: 1994 Revision, Oak Ridge National Laboratory, Oak Ridge, TN, Will, M.E. and G.W. Suter II;

iv. Other peer-reviewed published literature on the impact that specific contaminants have on non-human species;

2. Identify environmentally sensitive natural resources within the site boundaries and on properties immediately adjacent to the site. The boundaries of these sensitive areas shall be defined to the extent necessary to estimate the sensitive area size and location with respect to the contaminated site or area of concern. The Department of Geographic Information System shall be used as a source of information for identifying these sensitive areas;

3. Identify potential contaminant migration pathways to any environmentally sensitive natural resources identified in (a)2 above; or any observations of potential impact to the identified environmentally sensitive natural resources that might be attributed to site contamination; such observations shall include, but not be limited to:

i. Stressed or dead vegetation;

ii. Discolored soil, sediment or water;

iii. Absence of biota in a specified area of the system as compared to other similar areas of the same system; or

iv. Presence of a seep or discharge; and

4. Draw conclusions regarding the need to conduct further investigations. Continued ecological investigations shall be required during the remedial investigation, pursuant to N.J.A.C. 7:26E-4.7, whenever the baseline evaluation indicates the co-occurrence of the following conditions:

i. Contaminants of ecological concern exist onsite;

ii. An environmentally sensitive natural resource exists on, or immediately adjacent to, the site; and

iii. Potential contaminant migration pathways to an environmentally sensitive natural resource exist, or an impact to an environmentally sensitive natural resource is indicated based on visual observation.

II. GROUND WATER

The depth to ground water has been defined to be approximately five feet bgs with ground water flow direction suspected to be tidally influenced by the Passaic River. Federal Refining proposes to conduct tidal study. This is conditionally acceptable as relayed via the Case Manager's 3/4/04 email. MW2 and MW3 should have the recording of the water levels set up with a data logger to record the water levels over the full 71 hours, while MW1 can use a shorter duration. See TRSR for guidance.

Phase II of the EEC site investigation conducted on February 15, 2001 included converting several soil borings to temporary well points and collecting ground water grab samples. Ground water samples were collected from FB7W1, FB8W1, FB9W1 and FB13W1 locations. Several VOCs and priority pollutant (PP) metal concentrations were detected at elevated concentration in all temporary well points. FB9W1 reported the presence of acetone at 1,700 ppb above the GWQS of 700 ppb. Samples FB8W1 and FB13W1 reported the presence of acetone below the GWQS at 84 ppb and 6 ppb, respectively. MW1 was installed in the area of soil boring FB-8 due to the various organic and inorganic parameter exceedances detected at this location. MW-1 is located closest monitoring well to the Passaic River.

Sampling of MW1 on July 25, 2001 detected elevated acetone (110,000 **ppm**), arsenic (20 ppb), barium (3,100 ppb), lead (1,100 ppb) and mercury (3.1 ppb) concentrations above their respective GWQS. Subsequent to the installation and initial sampling of MW1 in July 2001, MW2 and MW3 were installed on October 31, 2001. All three wells were sampled on November 14, 2001. Note: See above deficiencies for MW3 under Data Review section.

The November 14, 2001 PP metals analysis of ground water revealed no lead or mercury exceedances in MW1, MW2 or MW3 as well as no metal exceedances of any type in MW-2 or MW-3. The only elevated metals detected included arsenic at 9.9 ppb and barium at 3,100 ppb in MW1 only. Exceedances of acetone were detected in MW1 and MW2 at 29,000 **ppm** and 14,000 **ppm**, respectively.

Federal Refining states barium in ground water and VOCs in soil and ground water are not attributed to site operations. Federal Refining proposes no further action except to amend the existing Deed Notice and to establish a Classification Exception Area (CEA) for the site. Federal Refining's proposal is unacceptable.

The December 2003 SOW shall be modified to include all ground water organic and inorganic parameters of concern at the site.

A. AOC 2

Federal Refining states VOC concentrations in soil and ground water are not attributed to site operations. It is further stated that no environmental concerns were identified specific to the pit and NFA is proposed. The intent is to amend the existing Deed Notice to include the elevated VOC compounds in soil and to establish a Classification Exception Area (CEA).

1. The proposal to add identified VOC exceedances to the Deed Notice as a remedial measure is unacceptable. VOCs in excess of IGWSCC have been identified and potential impacts to ground water shall be investigated. A ground water sample shall be collected at the former soil boring location FRSS-1 and analyzed for VOC+15, PP-Metals and field parameters.

2. The proposal to establish a CEA as a remedial measure for ground water is unacceptable. Federal Refining should note that the ground water VOC plume shall be fully delineated as part of the remedial investigation to be conducted under ISRA and in accordance with the TRSR. The CEA requirement is not to be considered a remedial measure. Pursuant to the Technical Regulations, the NJDEP will establish a ground water CEA as part of a remedial action for ground water at a contaminated site when the ground water does not meet the ground water quality standards.

B. The organic and inorganic GWQS exceedances (not associated with historic fill) in MW-1 ground water samples shall be fully delineated up-gradient and offsite to the south of the site. Additional investigation may include sampling for the potential impact on both sediment and surface water of the adjacent Passaic River; east of site. The offsite investigation of acetone can be deferred pending the outcome of the next phase of remedial investigation.

C. The July 25, 2001 ground water sampling collection information for site well MW-1, MW-2, and MW-3 shall be submitted, including the site ground water sampling protocol.

D. Pursuant to N.J.A.C.7:26E-3.2(a) the summary of the data and information evaluated shall be presented by AOC. The 1985 and 2000/2001 investigation work shall be summarized and all exceedances in soil and ground water summarized on a site map.

E. A well search shall be completed pursuant to N.J.A.C.7:26E- 3.7(e) and 4.4(h).

III. Permit Requirements

1. Federal Refining shall comply with all federal, state, and local laws, regulations, and ordinances in implementing an approved workplan.

2. Federal Refining shall submit applications for all required federal, state, and local permits to the appropriate regulatory authority within 30 days of the receipt of an approved workplan.

IV. Remediation Schedule Requirements

Federal Refining shall implement field activities according to an approved remedial action schedule. **Therefore Federal Refining shall submit a remedial action schedule, within *15 calendar days* of the receipt of this letter, in accordance with N.J.A.C. 7:26E identifying the projected month and year for each task.**

V. Reporting Requirements

1. Federal Refining shall notify the Case Manager at least 14 calendar days prior to implementation of all field activities. If Federal Refining fails to initiate sampling in accordance with an approved schedule, any request for an extension may be denied.

2. Federal Refining shall submit all reports or additional workplans, **in triplicate,** in accordance with an approved schedule. Please note that only one copy of the Quality Assurance/Quality Control deliverables is needed. All reports shall follow the requirements of the TRSR, N.J.A.C. 7:26E. Technically and administratively incomplete submissions, not prepared pursuant to N.J.A.C. 7:26E, may be rejected.

VI. Electronic Data Deliverable Requirements

Pursuant to the TRSR, N.J.A.C. 7:26E-3.13(c)3v, Federal Refining shall submit all analytical data both as a hard copy and an electronic deliverable using the database format outlined in detail in the current HAZSITE application or appropriate spreadsheet format specified in the NJDEP's electronic data interchange manual. Please note that the electronic deliverables may be submitted directly to the Case Manager via email.

The Electronic Data Submittal Application (EDSA) is a software program which will perform an administrative and completeness check on electronic data prior to that data being reviewed, evaluated or used by NJDEP personnel. Federal Refining shall ensure that it performs this check on all electronic data submitted to the NJDEP in the .txt, .wk1, or .dbf format to determine if the basic required information is included and correct. This routine is intended to decrease the occurrence of the NJDEP rejecting data for administrative errors or omissions.

For further information related to electronic data submissions, please refer to the Site Remediation Program's (SRP's) home page at the following Internet address: **http://www.state.nj.us/dep/srp/hazsite/** This website includes downloadable files, an explanation of how to use these files to comply with the NJDEP's requirements, the SRP's Electronic Data Interchange (EDI) manual, and Guidance for the Submission and Use of Data In GIS Compatible Formats Pursuant to "Technical Requirements for Site Remediation".

The associated EDSA data for all historical sampling events since the previous ISRA case including the above referenced March 2003 report shall be submitted in the next ISRA submission.

VII. General Requirements

1. Federal Refining shall collect and analyze all samples in accordance with the protocol outlined in the most current edition of the NJDEP's "Field Sampling Procedures Manual" and the TRSR, N.J.A.C. 7:26E.

2. If contamination is determined to exist above a level found acceptable by NJDEP, Federal Refining may prepare and submit either a Remedial Investigation Workplan or a Remedial Action Workplan pursuant to N.J.A.C. 7:26E. However, in accordance with N.J.S.A. 13:1K-9, Federal Refining may elect to remediate the site without prior submission or approval from the NJDEP, except in cases involving a remedial action of ground water or surface water, or for the closure of an underground storage tank subject to N.J.S.A. 58:10A. If contamination exists on-site, but has not been fully delineated pursuant to N.J.A.C. 7:26E-4, then such delineation shall be completed as a Remedial Investigation which meets the criteria of N.J.A.C. 7:26E.

3. Any proposal to leave contaminant concentrations on-site exceeding the NJDEP's current residential cleanup criteria, shall be in accordance with the TRSRN.J.A.C. 7:26E. Federal Refining shall also submit proof of acceptance of the non-residential cleanup criteria by the current property owner.

If you have any questions, please contact the Case Manager, Sharon Bruder, at (609) 609-633-1449.

Prepared By:

Sharon S Bruder

Sharon S. Bruder, Case Manager
Bureau of Northern Case Management

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